

BEFORE THE
Federal Communication Commission
Washington, DC 20554

MAY 15 2003

In the Matter of

Federal Communications Commission
Office of Secretary

Amendment of Parts 2, 25 and 87 of the
Commission's Rules to Implement Decisions from
World Radiocommunication Conferences
Concerning Frequency Bands Between 28 MHz
And 36 GHz and to Otherwise Update the Rules in
This Frequency Range

ET Docket No. 02-305

Amendment of Parts 2 and 25 of the
Commission's Rules to Allocate Spectrum for
Government and Non-Government Use in the
Radionavigation-Satellite Service

RM-10331

To: Secretary - The Federal Communications Commission

MOTION TO ACCEPT LATE-FILED COMMENTS
OF DIGITALGLOBE, INC.

DigitalGlobe, Inc. (hereinafter, "DigitalGlobe") respectfully requests that the Commission accept the attached late-filed *Comments of DigitalGlobe* related to Commission Rulemaking Number 10331 (hereinafter, "RM-10331") in ET Docket No. 02-305. The attached comments explain how allocating the band 25.5 to 27 GHz on a primary basis for Earth Exploration Satellite Service, with a directional indicator of Space-to-Earth, (hereinafter, "EESS (S-E)") on the Non-Federal Government Table of Frequency Allocations is essential to effectuate the recently announced *U.S. COMMERCIAL REMOTE SENSING POLICY* (hereinafter, the "U.S. Policy").

In the comments, we detail (1) the specific mandates of the U.S. Policy, adopted on April 25, 2003 by the White House, and (2) the need for a primary allocation for the

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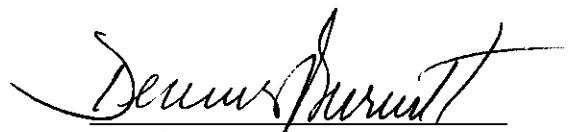
commercial remote sensing industry in the band 25.5 to 27 GHz is vital to the national security and foreign policy interests of the country.

RM-10331 was adopted by the Commission on September 18, 2002 and published in the *Federal Register* on October 7, 2002. RM-10331 was open for comments until December 6, 2002 and for reply comments by January 5, 2003. Digital Globe seeks leave to file these comments late because it did not discover the proposed change in the FCC regulations until a few weeks ago. Digital Globe did not discover the provisions of RM-10331 applicable to DigitalGlobe's future commercial remote sensing operations because the applicable provisions of the rulemaking were buried on pages 31 to 33 of the 104-page rulemaking.

The table of contents of RM-10331 sets forth nine different segments of the communications industry in the United States that will be affected by the rulemaking. The table of contents, however, provides no reference to having an effect on either EESS (S-E) or remote sensing operations. As a result, not only did DigitalGlobe fail to timely realize that RM-10331 had implications for its future operations, but also every other FCC licensed remote sensing operator in the United States failed to timely note the implication of the rulemaking as well.

Because an allocation of EESS (S-E) in the band 25.5 to 27 GHz is critical to the national security interests of the United States and because the provisions of RM-10331 pertaining to EESS (S-E) were buried within the lengthy rulemaking, DigitalGlobe hereby requests that the Commission accept these late filed comments.

Respectfully submitted,



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To: The Federal Communications Commission

COMMENTS OF DIGITALGLOBE, INC.

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TABLE OF CONTENTS

<i>Table of Contents</i>	ii
<i>Beginning of Comments of DigitalGlobe, Inc</i>	1
I. BACKGROUND	2
II. DISCUSSION	5
A. Advances in Sensor Technology Require Wider Bandwidth for Data Downlinks	6
B. Allocation of the Band 25.5 to 27 GHz for Use by Commercial Remote Sensing Operators Must be on a Protected (Primary) Basis if Policy Objectives are to be Realized.....	8
C. The NPRM Provides No Justification for Why the Band 25.5 to 27 GHz Should be Allocated as Primary Only on the Federal Government Table of Frequency Allocations	11
III. CONCLUSION	11
<i>Attachment 1: "U.S. Commercial Remote Sensing Policy"</i>	13
<i>Attachment 2: June 7, 2002 Memorandum from CIA Director to Director of NIMA</i>	21

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RM-10331

To: The Federal Communications Commission

COMMENTS OF DIGITALGLOBE, INC.

DigitalGlobe, Inc. ("DigitalGlobe"), pursuant to Sections 1.415 and 1.419 of the Commission's Rules, through its attorneys, hereby comments on the Commission's above captioned Notice of Proposed Rulemaking ("NPRM"), in which the Commission proposes to amend Section 2.106 of its Rules to incorporate changes to the International Table of Frequency Allocations adopted at the 1997 World Radiocommunication Conference ("WRC-97"). These comments are focused only on the proposal to amend the US Table of Frequency Allocations to change the allocation in the band 25.5 to 27.0 GHz for Earth Exploration Satellite Service ("EESS") from a secondary to a primary allocation for Government users, but failing to change the allocation for non-Government (*i.e.*, commercial) users from a secondary to a primary allocation. We assert that the proposed rules fail to meet the requirements of the commercial

remote sensing industry and are inconsistent with the U.S. Commercial Remote Sensing Policy (April 25, 2003) that was recently released by the White House.¹

The fundamental goal of US policy is to “advance and protect U.S. national security and foreign policy interests by maintaining the nation’s leadership in remote sensing space activities, and by sustaining and enhancing the U.S. remote sensing industry.” U.S. companies are “encouraged to build and operate commercial remote sensing space systems whose operational capabilities, products and services are superior to any current or planned foreign commercial systems.” These policies cannot be achieved unless the commercial remote sensing industry can utilize sufficient spectrum required to support the technical advances called for by U.S. policy and unless that spectrum is made available to the commercial remote sensing industry on a priority basis.

I. BACKGROUND

The first generation commercial remote sensing satellite systems utilize the band 8025-8400 MHz (hereinafter, “X-band”) to downlink data from the satellites to earth stations. X-band is allocated for use by Government EESS users (such as NASA and NOAA) on a primary basis. Footnote 258 provides that commercial remote sensing satellite operators also may use the band on a primary basis.

However, X-band has limitations for advanced commercial operations. There are a number of users of the band and the bandwidth is constrained. In the 1990s, the commercial remote sensing industry foresaw the need for significantly more bandwidth to handle the large amount of data that would be collected by second and third generation commercial remote sensing systems. It was clear that both domestic and international competition would drive

¹ See, <http://www.ostp.gov/html/new.html> (attached hereto as Attachment 1).

commercial operators to increase the resolution of their systems with each generation.² To illustrate the effect of increases in the resolution of remote sensing systems, it is important to note that every time the pixel size of remote sensing imagery is reduced by one-half, the amount of data collected is increased four times and, as a result, additional communication capacity (i.e., bandwidth) is required to downlink the data.³

Additionally, the commercial operators foresaw that it would be increasingly difficult to coordinate the use of the band 8025-8400 with government users, particularly NASA, because: (1) advances in sensing technology would require use of the entire band by commercial operators and (2) NASA has a proclivity for implementing EESS systems that use very wide downlink beams (which make sharing more difficult than if they would use narrow downlink beams generally utilized by the commercial operators).

Clearly, substantially more bandwidth with primary status for commercial EESS operators was needed. The US commercial remote sensing industry identified the band 25.5-27.0 GHz (hereinafter “Ka-band”) as a spectral band that could meet this requirement. The industry determined that the Ka-band was sufficiently broad to accommodate the growing need for EESS downlink capacity and that the band was largely unused.

Prior to WRC-97, the band 25.5 to 27.0 GHz was allocated in the International Table of Frequency Allocations for use by the EESS on a secondary basis in Regions 1, 2 and 3 for Space-to-Space (“S-S”) transmissions. Consequently, the commercial remote sensing

² The first generation Landsat system had a resolution of approximately 90 meters IFOV. By the time Landsat was commercialized in the mid 1980s, its resolution had been increased to 30 meters IFOV. The French Spot Image system, the first system to compete with Landsat, had a resolution of 15 meters IFOV. WorldView’s EarlyBird was first proposed to have 15 meter color and 3 meter panchromatic resolution. When QuickBird was proposed to replace the failed-on-launch EarlyBird, QuickBird was proposed to have 3 meter color and 97 centimeter panchromatic resolution. By the time QuickBird was launched, the resolution was increased to 61 centimeters. The next generation is proposed to have a resolution of approximately 25 centimeters.

³ For example, when the resolution of a system is increased from 1 meter to 50 centimeters, four times as much information is collected for the same area. When the resolution is increased to 25 centimeters from 1 meter, there is

industry set about to achieve the required changes to the International Table of Frequency Allocations at WRC-97 to allocate the use of the band for EESS on a world-wide, primary basis for Space-to-Earth ("S-E") transmissions.

A report was prepared by the U.S. commercial remote sensing industry in early 1996 explaining the need for a change in the International Table of Frequency Allocations for EESS (S-E) in the band 25.5 to 27.0 GHz. The report noted the limitations of the existing allocation for commercial (non-Government) EESS requirements and the need for more bandwidth. This Report, eventually supported by the Federal Government, including NASA, was adopted as the US position for WRC-97.⁴

The arguments of the United States in favor of the primary EESS (S-E) allocation proposed by the United States as changes to the International Table of Frequency Allocation are set forth explicitly in Paragraph 91 and the footnotes to Paragraph 91 on page 32 of the NPRM.

Paragraph 91 provides as follows:

91. At WRC-97, the United States proposed to upgrade the secondary EESS (space-to-Earth) allocation in the band 25.25-27 GHz to primary status, stating that these downlinks of EESS data to Earth needed to be on a protected basis.¹²⁸ The United States stated that advanced technology EESS spacecraft will require wider bandwidths to download their data and that the band 25.5-27 GHz is suitable for this purpose.¹²⁹ WRC-97 upgraded the EESS (space-to-Earth) allocation as requested. . . [Emphasis added.]⁵

The statements in footnotes 128 and 129 provide more detailed explanation of the US position. In particular, footnote 128 states: "The United States stated that the band 8025-

sixteen times as much information collected for the same area. To put this in perspective, for each 90x90 meter pixel acquired by the first Landsat system, the next generation DigitalGlobe satellite will collect 129,600 pixels.

⁴ US WP 7C (3 June 1996).

⁵ The NPRM also stated: "In its WRC-97 recommendations, NTIA proposed to change the status of the EESS allocation from secondary to primary status in the Federal Government Table."¹³¹ We assert that NTIA did not take into account the requirements of the commercial remote sensing operators when it made that statement.

8400 MHz, which is currently used for this purpose, is becoming heavily used by the allocated space services in that band”.

Likewise, Footnote 129 states:

Advances in technology are providing higher resolution instruments, which in turn require ever larger bandwidths to download their data from the spacecraft. Present data rates are in the 75-150 Mbps range (requiring up to 300 megahertz of bandwidth) in the band 8025-8400 MHz. Bandwidths as high as 400-800 megahertz are forecast for some EES sensors and cannot be accommodated in the current band.

Ultimately, the US position was adopted at WRC-97, and the International Table of Frequency Allocations was amended to allocate the use of the band 25.5-27.0 GHz for use by the EESS on a primary basis world-wide (S-E).

Given the background of the requirement of the U.S. commercial remote sensing industry for a primary allocation in the band 25.5 to 27 GHz and the previous support of the US government for changes in the International Table of Frequency Allocations to meet that requirement, it comes as somewhat of a surprise that the Commission is currently proposing to change the allocation to primary use only for Government, not non-Government (i.e., commercial) EESS operators. DigitalGlobe proposes that the Commission amend the domestic table of frequency allocations to allocate the use of the band 25.5-27.0 GHz to EESS on a primary basis for non-Government (i.e., commercial) users as well as Government users.

II. DISCUSSION

The requirements of the commercial remote sensing operators that were the foundation of the proposed changes to the International Table of Frequency allocations still exist. Advances in commercially available technology require wider bandwidths for data downlinks. U.S. policy encourages U.S. companies to build and operate advanced systems “superior to any

current or planned foreign commercial systems.” U.S. companies therefore require use of sufficient protected spectrum to meet those objectives.

A. Advances in Sensor Technology Require Wider Bandwidth for Data Downlinks.

When the US proposal was being considered for WRC-97, US industry understood that commercial competition would drive technological change, particularly improvements in sensor resolution, the utilization of which would require wider bandwidths. As noted earlier, DigitalGlobe’s first proposed satellite, EarlyBird, would have had a resolution of 3 meters (panchromatic). When EarlyBird’s first launch failed, its replacement, QuickBird, was proposed to have a resolution of 82 centimeters (panchromatic). By the time QuickBird was launched, the resolution was increased to 61 centimeters (panchromatic), which is the best resolution currently available on a commercial basis.⁶ The next generation of DigitalGlobe satellites are proposed to have a resolution of 25 centimeters.

Thus, in the few short years since the changes to the International Table of Frequency Allocations were proposed, the resolutions achievable by DigitalGlobe satellites have increased from 3 meters to 25 centimeters. This upgrade in resolution represents an increase of 144 times the amount of information collected per equivalent scene. If all other system parameters remained the same, that would mean that the next generation DigitalGlobe satellite would require 144 times the bandwidth as the first proposed DigitalGlobe satellite.

The amount of data that can be downlinked from a remote sensing satellite is determined by a variety of factors, including pixel size, swath width, on-board recording capacity, on-board and bandwidth compression, and the amount of time the satellite is visible to a downlink station. The current DigitalGlobe system, with a pixel size of approximately 61

centimeters, is optimized to take full advantage of the available X-band spectrum (8025-8400 MHz) and available technology.

DigitalGlobe currently uses state-of-the-art compression technology to maximize its ability to use the X-band. DigitalGlobe does not foresee any significant advances in compression that can be utilized in its next generation systems. Much larger capacity on-board recorders are available and can be used in the next generation system. However, the larger capacity on-board recorders will exceed the capacity of the data downlink at X-band and therefore cannot be usefully employed unless Ka-band can be utilized. In addition, much larger swath-widths are desirable, but, if the swath width is increased, the data throughput requirements will exceed the downlink capacity of X-band. Larger swath widths (which are desired for U.S. national security purposes), combined with higher resolution, are achievable only if Ka-band can be utilized.

Out of all of the factors constraining the development of the next generations of remote sensing satellite systems, the largest constraint on system design is imposed by the limitations of the bandwidth available in X-band. If fact, in order for DigitalGlobe to increase the resolution from 61 centimeters to 25 centimeters, the swath width of the next generation satellite would have to be decreased if an X-band downlink is used. Consequently, DigitalGlobe anticipates filing for utilization of Ka-Band (25.5-27.0 GHz) when it files its FCC application for its next generation system.⁷

⁶ DigitalGlobe and Space Imaging are currently licensed by NOAA to provide 50 centimeter resolution.

⁷ DigitalGlobe has filed an application for its next generation system with the National Oceanic and Atmospheric Administration ("NOAA") as required by the Land Remote Sensing Policy Act of 1992. As the Commission is aware, NOAA has primary jurisdiction over the licensing of remote sensing satellite systems, including the technical parameters of the system. The Commission has jurisdiction over the frequency licenses required to operate any system licensed by NOAA. Consequently, DigitalGlobe will not file its FCC application until the NOAA has granted a license. The NPRM stated that "there are currently no FCC licensees using the secondary EESS (space-to-Earth) allocation in the band 25.25 to 27.5 GHz." It is not clear whether the Commission was using this statement as a justification for not allocating the band 25.5 to 27 GHz as primary for EESS (space-to-Earth) on the Non-Federal Government Table of Frequency Allocations. It does not make sense for the remote sensing industry to file applications with the FCC until NOAA has given its authority to operate, because the conditions of NOAA

B. Allocation of the Band 25.5 to 27 GHz for use by Commercial Remote Sensing Operators Must be on a Protected (Primary) Basis if U.S. Policy Objectives are to be Realized

On April 25, 2003, the White House issued the *U.S. COMMERCIAL REMOTE SENSING POLICY* (the “U.S. Policy”). As noted earlier, the fundamental goal of the policy is “to advance and protect U.S. national security and foreign policy interests by maintaining the nation’s leadership in remote sensing space activities, and by sustaining and enhancing the U.S. remote sensing industry.” [emphasis added]. The U.S. Policy states that the continued ability of the U.S. government to remotely sense Earth from space is vital to the “national security, foreign policy, economic, and civil interests of the United States.”

The U.S. Policy provides that the United States will:

- Rely to the maximum practical extent on U.S. commercial remote sensing capabilities for filling imagery and geospatial needs for military, intelligence, foreign policy, homeland security, and civil uses;

- Develop a long-term, sustainable relationship between the United States Government and the U.S. commercial remote sensing space industry;
- Provide a timely and responsive regulatory environment for licensing the operations and exports of commercial remote sensing space systems; and
- Enable U.S. industry to compete successfully as a provider of remote sensing space capabilities for foreign governments and foreign commercial users

authorization dictate factors that need to be set forth in the FCC application. Furthermore, FCC rules discourage early satellite applications. Consequently, the absence of pending applications before the FCC does not indicate that new systems are not being proposed and that there is no need for commercial use of the spectrum.

The U.S. Policy states that “vital national security, foreign policy, economic, and civil interests” depend on the ability of the United States to remotely sense Earth from space.

The U.S. Policy goes on to say that –

A robust U.S. commercial remote sensing space industry can augment and potentially replace some United States Government capabilities and can contribute to U.S. military, intelligence, foreign policy, homeland security, and civil objectives, as well as U.S. economic competitiveness. Continued development and advancement of U.S. commercial remote sensing space capabilities also is essential to sustaining the nation’s advantage in collecting information from space. Creating a robust U.S. commercial remote sensing industry requires enhancing the international competitiveness of the industry.

Finally, the U.S. Policy states that –

To support the goals of this policy, U.S. companies are encouraged to build and operate commercial remote sensing space systems whose operational capabilities, products, and services are superior to any current or planned foreign commercial systems. . . .

While the new U.S. Policy provides a clear signal to the agencies of the US government regarding the vital nature of the commercial remote sensing industry to the national security and foreign policy interests of the country, it should be noted that U.S. Policy was already being implemented in many ways when it was issued.

In 2001, Congress instructed the Central Intelligence Agency (“CIA”), National Imaging Agency (“NIMA”) and other U.S. intelligence agencies to use commercial satellite information as much as possible to ensure a commercial domestic source of reconnaissance satellite imagery.

On June 7, 2002, the Director of the Central Intelligence Agency (“CIA”), George Tenet, issued a Memorandum outlining the current policy of the US Intelligence Community to

use US commercial remote sensing data to the “greatest extent possible”.⁸ In particular, Mr. Tenet directed NIMA to use commercial satellite imagery as the “primary source of data” for government mapping purposes, and stated that “national technical means” shall be used for federal government mapping purposes only under “exceptional circumstances as determined by the Director of NIMA.” Mr. Tenet further directed NIMA to “facilitate acquisition of commercial imagery for other federal agencies” in order to “expand the market for the imagery.” In conclusion, Mr. Tenet stated that the goal of the US Intelligence Community is to “stimulate, as quickly as possible, and maintain for the foreseeable future, a robust US commercial space imagery industry.”

In January 2003, NIMA announced that it had committed to purchase up to \$1 billion worth of commercial satellite imagery from DigitalGlobe and Space Imaging over the next five years. The contracts, called “Clearview” by NIMA, have been used to provide high resolution commercial imagery of Iraq to NIMA in support of US operations. In addition, the US Air Force has developed EAGLE VISION, which allows US forces to directly download, in theater, commercial imagery directly from DigitalGlobe and Space Imaging satellites to support ongoing operations.

If commercial remote sensing operators are to achieve the goals and objectives set forth in the U.S. Policy and support the national security and other requirements of the U.S., those operators must have access to significant additional capital. The next generation commercial systems utilizing advanced technologies will require significant additional investment. However, investors are sensitive to risks associated with the utilization by commercial systems of frequency spectrum on a secondary basis. We believe it may prove to be impossible to secure the investment necessary to deploy the advanced systems called for by U.S.

⁸ The June 7, 2002 Memorandum from Mr. Tenet is attached hereto as Attachment 2.

policy unless the Ka-band spectrum is allocated to commercial EESS operators on a primary basis.

It would be particularly ironic if the failure to give primary status in the Ka-band to the commercial remote sensing industry were to result in the U.S. losing its competitive advantage and its technological leadership in remote sensing.

C. The NPRM Provides No Justification for Why the Band 25.5 to 27 GHz Should be Allocated as Primary Only on the Federal Government Table of Frequency Allocations

The NPRM provides no explicit justification as to why a Primary ESSS (S-E) allocation at the band 25.5 to 27 GHz should be made for government users, but not for non-government users. As we have shown herein, there is more than ample justification for allocating use of the Ka-band to commercial users on a priority basis. Consequently, we must conclude that, as the proposal originated with NTIA, that no thought was given to commercial requirements.

III. CONCLUSION

Based on the current demand for commercial remote sensing data and the capacity needs of the next generation of remote sensing satellites, it is clear that the current X-band (8025-8400 MHz) being used by the commercial remote sensing industry is not sufficient to meet the requirements of the next generation commercial remote sensing systems. A viable commercial remote sensing industry utilizing advance technology requires access to bandwidth that is only available in Ka-Band (25.5-27.0 GHz). Access to capital as well as national security and competitive leadership require that remote sensing operators can utilize Ka-band on a priority basis.

Based on the foregoing, DigitalGlobe hereby strongly encourages the Commission to amend the NPRM and allocate the band 25.5 to 27.0 GHz for use of the EESS (S-E) on a primary basis on the Non-Federal Government Frequency Allocation Table as well as on the Federal Government Frequency Allocation Table.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Dennis J. Burnett", is written over a horizontal line.

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May 15, 2003

Attachment 1
“U.S. Commercial Remote Sensing Policy”

U.S. COMMERCIAL REMOTE SENSING POLICY

April 25, 2003

FACT SHEET

The President authorized a new national policy on April 25, 2003 that establishes guidance and implementation actions for commercial remote sensing space capabilities. This policy supersedes Presidential Decision Directive 23, U.S. Policy on Foreign Access to Remote Sensing Space Capabilities, dated 9 March 1994. This fact sheet provides a summary of the new policy.

I. Scope and Definitions

This policy provides guidance for: (1) the licensing and operation of U.S. commercial remote sensing space systems; (2) United States Government use of commercial remote sensing space capabilities; (3) foreign access to U.S. commercial remote sensing space capabilities; and (4) government-to-government intelligence, defense, and foreign policy relationships involving U.S. commercial remote sensing space capabilities.

For the purposes of this document:

- "Remote sensing space capabilities" refers to all remote sensing space systems, technology, components, products, data, services, and related information. In this context, "space system" consists of the spacecraft, the mission package(s), ground stations, data links, and associated command and control facilities and may include data processing and exploitation hardware and software; and
- "Commercial remote sensing space capabilities" refers to privately owned and operated space systems licensed under the Land Remote Sensing Policy Act of 1992, their technology, components, products, data, services, and related information, as well as foreign systems whose products and services are sold commercially.

No legal rights or remedies, or legally enforceable causes of action are created or intended to be created by this policy. Officers of the United States and those agents acting on their behalf implementing this policy shall do so in a manner consistent with applicable law.

II. Policy Goal

The fundamental goal of this policy is to advance and protect U.S. national security and foreign policy interests by maintaining the nation's leadership in remote sensing space activities, and by sustaining and enhancing the U.S. remote sensing industry. Doing so will also foster economic growth, contribute to environmental stewardship, and enable scientific and technological excellence.

In support of this goal, the United States Government will:

- Rely to the maximum practical extent on U.S. commercial remote sensing space capabilities for filling imagery and geospatial needs for military, intelligence, foreign policy, homeland security, and civil users;
- Focus United States Government remote sensing space systems on meeting needs that can not be effectively, affordably, and reliably satisfied by commercial providers because of economic factors, civil mission needs, national security concerns, or foreign policy concerns;
- Develop a long-term, sustainable relationship between the United States Government and the U.S. commercial remote sensing space industry;
- Provide a timely and responsive regulatory environment for licensing the operations and exports of commercial remote sensing space systems; and
- Enable U.S. industry to compete successfully as a provider of remote sensing space capabilities for foreign governments and foreign commercial users, while ensuring appropriate measures are implemented to protect national security and foreign policy.

III. Background

Vital national security, foreign policy, economic, and civil interests depend on the United States ability to remotely sense Earth from space. Toward these ends, the United States

Government develops and operates highly capable remote sensing space systems for national security purposes, to satisfy civil mission needs, and to provide important public services. United States national security systems are valuable assets because of their high quality data collection, timeliness, volume, and coverage that provide a near real-time capability for regularly monitoring events around the world. United States civil remote sensing systems enable such activities as research on local, regional, and global change, and support services and data products for weather, climate, and hazard response, and agricultural, transportation, and infrastructure planning.

A robust U.S. commercial remote sensing space industry can augment and potentially replace some United States Government capabilities and can contribute to U.S. military, intelligence, foreign policy, homeland security, and civil objectives, as well as U.S. economic competitiveness. Continued development and advancement of U.S. commercial remote sensing space capabilities also is essential to sustaining the nation's advantage in collecting information from space. Creating a robust U.S. commercial remote sensing industry requires enhancing the international competitiveness of the industry.

IV. Licensing and Operation Guidelines for Private Remote Sensing Space Systems

The Secretary of Commerce, through the National Oceanic and Atmospheric Administration (NOAA), licenses and regulates the U.S. commercial remote sensing space industry, pursuant to the Land Remote Sensing Policy Act of 1992, as amended, and other applicable legal authorities. The Secretary of Defense and the Secretary of State are responsible for determining the conditions necessary to protect national security and foreign policy concerns, respectively. NOAA, in coordination with other affected agencies and in consultation, as appropriate, with industry, will develop, publish, and periodically review the licensing regulations and associated timelines governing U.S. commercial remote sensing space systems.

To support the goals of this policy, U.S. companies are encouraged to build and operate commercial remote sensing space systems whose operational capabilities, products, and services are superior to any current or planned foreign commercial systems. However, because of the potential value of its products to an adversary, the operation of a U.S. commercial remote sensing space system requires appropriate security measures to address U.S. national security and foreign policy concerns. In such cases, the United States Government may

restrict operations of the commercial systems in order to limit collection and/or dissemination of certain data and products, e.g., best resolution, most timely delivery, to the United States Government, or United States Government approved recipients.

On a case-by-case basis, the United States Government may require additional controls and safeguards for U.S. commercial remote sensing space systems potentially including them as conditions for United States Government use of those capabilities. These controls and safeguards shall include, but not be limited to: (1) the unique conditions associated with United States Government use of commercial remote sensing space systems; and (2) satellite, ground station, and communications link protection measures to allow the United States Government to rely on these systems. The United States Government also may condition the operation of U.S. commercial remote sensing space systems to ensure appropriate measures are implemented to protect U.S. national security and foreign policy interests.

V. United States Government Use of Commercial Remote Sensing Space Capabilities

To support the goals of this policy, the United States Government shall utilize U.S. commercial remote sensing space capabilities to meet imagery and geospatial needs. Foreign commercial remote sensing space capabilities, including but not limited to imagery and geospatial products and services, may be integrated in United States Government imagery and geospatial architectures, consistent with national security and foreign policy objectives.

With regard to the national security remote sensing space architecture, the Secretary of Defense and the Director of Central Intelligence, in consultation with industry as appropriate, shall:

- Determine which needs for imagery and geospatial products and services can be reliably met by commercial remote sensing space capabilities;
- Communicate current and projected needs to the commercial remote sensing space industry;
- Competitively outsource functions to enable the United States Government to rely to the maximum practical extent on commercial remote sensing space capabilities for filling imagery and geospatial needs;

- Establish the National Imagery and Mapping Agency (NIMA) as the agency of primary responsibility for acquiring and disseminating commercial remote sensing space products and services for: (1) all national security requirements; and, (2) in consultation with the Secretary of State, all foreign policy requirements.

With regard to civil remote sensing space capabilities, the Secretaries of Commerce and the Interior and the Administrator of the National Aeronautics and Space Administration (NASA), in consultation with other United States Government agencies, and with industry, as appropriate, shall:

- Determine which civil needs can be met by commercial remote sensing space capabilities; and
- Communicate current and projected needs to the commercial remote sensing space industry.

United States Government civil agencies acting individually, or when beneficial, together, shall:

- Competitively outsource functions to enable the United States Government to rely to the maximum practical extent on commercial remote sensing space capabilities for filling civil imagery and geospatial needs;
- Acquire and operate United States Government systems that collect data only when such data (1) are not offered and will not be made available by U.S. commercial remote sensing space systems; or (2) require collection, production, and/or dissemination by the United States Government due to unique scientific or technological considerations or other mission requirements; and
- Coordinate with NIMA procurement of all U.S. commercial remote sensing data and products that are restricted to United States Government or United States Government-approved users pursuant to NOAA license conditions due to U.S. national security or foreign policy concerns.

Agencies shall allocate the resources required to implement these objectives within the overall policy and resource guidance of the President and available appropriations. Civil agencies may acquire commercial remote sensing space products and services directly, through cooperative arrangements with other civil agencies, or through NIMA. When procuring through another

agency, civil agencies will reimburse the procuring agency, consistent with the Economy Act.

VI. Foreign Access To U.S. Commercial Remote Sensing Space Capabilities

It is in U.S. national security, foreign policy, and economic interests that U.S. industry compete successfully as providers of remote sensing space products and capabilities to foreign governments and foreign commercial users. Therefore, license applications for U.S. commercial remote sensing space exports shall be considered favorably to the extent permitted by existing law, regulations and policy when such exports support these interests.

The United States Government will consider remote sensing exports on a case-by-case basis. These exports will continue to be licensed pursuant to the United States Munitions List or the Commerce Control List, as appropriate, and in accordance with existing law and regulations. The following guidance will also apply, when considering license applications for remote sensing exports:

- The United States Government will take into account exports' potential contribution to achieving the goals of this policy, the overall relationship, particularly the existing defense and defense trade relationship with the proposed recipient nation, and broader U.S. national security, foreign policy, and economic objectives;
- As a general guideline, remote sensing exports that are currently available or are planned to be available in the global marketplace also will be considered favorably;
- Exports of sensitive or advanced information, systems, technologies, and components, however, will be approved only rarely, on a case-by-case basis. These items include systems engineering and systems integration capabilities and techniques, or enabling components or technologies, i.e., items with capabilities significantly better than those achievable by current or near-term foreign systems. The Secretary of State, in consultation with the Secretary of Defense and the Director of Central Intelligence, shall maintain a Sensitive Technology List that includes these items. This list shall be made available to U.S. industry, consistent with national security and foreign policy

concerns. The Department of State shall use the list in the evaluation of requests for exports; and

- Sensitive or advanced remote sensing exports, including but not limited to a sub-set of items specifically identified on the Sensitive Technology List, will be approved only on the basis of a government-to-government agreement or other acceptable arrangement that includes, among other things, end-use and retransfer assurances that protect U.S. controlled technical data, and broader national security and foreign policy needs. Such agreements also may include protections for intellectual property and economic interests. To facilitate timely implementation, the disposition of export license applications will be expedited after completion of such agreements or arrangements.

VII. Government-to-Government Intelligence, Defense, and Foreign Relationships

The United States Government will use U.S. commercial remote sensing space capabilities to the maximum extent practicable to foster foreign partnerships and cooperation, and foreign policy objectives, consistent with the goals of this policy and with broader national security objectives. Proposals for new partnerships regarding remote sensing that would raise questions about United States Government competition with the private sector shall be submitted for interagency review. In general, the United States Government should not pursue such partnerships if they would compete with the private sector, unless there is a compelling national security or foreign policy reason for doing so.

VIII. Implementation Actions

Implementation of this directive will be within the overall policy and resource guidance of the President and subject to the availability of appropriations. Agencies have been directed to complete a series of specific implementation actions within 120 days from the date of this directive.

Attachment 2

June 7, 2002 Memorandum from CIA Director to Director of NIMA

Director of Central Intelligence
Washington, DC 20505

7 June 2002

MEMORANDUM FOR: Director, National Imagery and Mapping Agency
SUBJECT: Expanded Use of US Commercial Space Imagery

It is the policy of the Intelligence Community to use US commercial space imagery to the greatest extent possible. Therefore, I request that you take the following actions:

- Direct that US commercial satellite imagery be the primary source of data used for government mapping, regardless of whether the production work is performed by NIMA or is outsourced; national technical means (NTM) will only be tasked under exceptional circumstances as determined by the Director of NIMA. You should review your determinations to use NTM for mapping with the Assistant Director of Central Intelligence for Collection on at least an annual basis.
- Position NIMA to facilitate the acquisition of commercial imagery for other federal agencies that request such support on a reimbursable basis in order to encourage and streamline the acquisition of such data and products in an effort to expand the market for the imagery.
- Seek the concurrence of the Secretary of Defense and myself should you need to reprogram funds appropriated for commercial imagery or reallocate funds budgeted for the purchase of commercial imagery in the President's budget.
- Finally, I request that you take the lead for the Intelligence Community in communicating this policy to the US commercial imagery industry in order to ensure them of our commitment.

My goal in establishing this policy is to stimulate, as quickly as possible, and maintain, for the foreseeable future, a robust US commercial space imagery industry. You have been a champion of commercial imagery for the Community and I encourage your efforts to continue. You should take all possible steps to remove any remaining institutional obstacles to its use in meeting government needs. If you need additional resources to implement this policy, please include your requirements in your FY 2004 NIMA request. I appreciate your leadership in this area and I am committed to supporting you in this endeavor.


George J. Tenet